PMS18
COST COMPARISON OF SURGICAL AND NON-SURGICAL TREATED LUMBAR SPINAL STENOSIS PATIENTS
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OBJECTIVES: Lumbar spinal stenosis (LSS) occurs as a degeneration of the spine in aging populations. Treatment options comprise surgical and non-surgical intervention. The aim of this study was to compare annual costs between LSS patients treated with instrumental spinal surgery (ISS) and those non-surgically treated. **METHODS:** A retrospective claims data analysis was conducted using anonymized claims data from the Health Risk Institute research database. The study period comprised 01 January 2009 to 31 December 2011. LSS patients receiving an ISS were compared to an age and gender matched non-operated control group with comparable disease state. Patients were identified by ICD-10-GM code M48.0* in the inpatient setting. Operation and procedure codes (OPS) were used to identify ISS. Comparable disease state was achieved by matching total costs in an individual period of 12 months before the first LSS caused hospitalization. Annual costs after surgical treatment were compared for LSS patients receiving ISS and those with no surgical treatment. **RESULTS:** A total of 2,027 patients with LSS were identified in 2010 records. Surgical treatment with ISS was applied in 542 cases whereas 1,485 individuals received non-surgical treatment. After matching both groups for age, gender, and comparable disease state, 393 patients in each group were available for the cost comparison. Mean annual costs were €8,458 higher in the ISS-treated group; clearly due to average ISS-cost of €9,644. In contrast, costs for outpatient care and pharmaceuticals decrease after the surgery. **CONCLUSIONS:** Surgical treatment for LSS patients exceeds the cost of non-surgical treatment in the first year after surgery. A cost offset is not achievable in this period due to the high cost of the surgical intervention. Nevertheless, cost savings were already observed in pharmaceutical therapy and outpatient care. Further research is needed to determine if overall cost savings could be achieved in an extended timeframe.

PMS19
COST PER RESPONDER OF APREMILAST VERSUS ETANERCEPT AND ADALIMUMAB IN PATIENTS WITH ACTIVE PSORIATIC ARTHRITIS
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OBJECTIVES: The purpose of this study was to estimate the annual costs and the cost per responder for psoriatic arthritis (PsA) patients treated with apremilast, etanercept, and adalimumab in adults with PsA in the United States. **METHODS:** Comparative efficacy data were obtained from a Bayesian network meta-analysis of biologic and non-biologic disease-modifying antirheumatic drugs as of October 2013. The primary outcome was ACR20 response at Week 24. Response rate differences from the clinical trials were assumed to be maintained for 52 weeks. US wholesale acquisition cost as of June 2014 and approved labeled dosing were used to derive drug treatment costs. **RESULTS:** At Week 24, the adjusted ACR20 response rate was 40.3% for apremilast, 53.4% for etanercept, and 57.8% for adalimumab. The cost per ACR20 responder at Week 24 was $23,562 for apremilast, $30,346 for etanercept, and $25,978 for adalimumab. By Week 52, the cost per ACR20 responder was $53,704 for apremilast, $65,750 for etanercept, and $56,273 for adalimumab. The annual cost to achieve 100 responders was $5,370,387 for apremilast, $6,574,981 for etanercept, and $5,627,336 for adalimumab. **CONCLUSIONS:** Apremilast had the lowest wholesale acquisition costs per ACR20 responder and the lowest annual cost to achieve 100 ACR20 responders, as compared with etanercept and adalimumab through 52 weeks in PsA patients.

PMS20
DIRECT NON-MEDICAL COSTS OF RHEUMATOID ARTHRITIS BY DISEASE LEVEL IN PORTUGAL
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OBJECTIVES: Direct non-medical costs may be difficult to assess, so these are often disregarded in cost-of-illness studies. This analysis aims to estimate the annual direct non-medical costs of treating a patient with Rheumatoid Arthritis (AR) in Portugal, per level of disease activity. **METHODS:** Patients with RA followed by 5 different rheumatologists across the country, were asked to participate in a survey, and informed consent was given by all patients. Besides socio-economic data, the survey included questions regarding the following cost components: number of medical appointments and treatments attended by the patient and its associated travel expenses; expenditures related to adaptations made to their homes and the purchase of medical devices; amount of domiciliary support received, both paid and unpaid. In case of paid domiciliary support patients were also asked about the associated amount. That figure was then used in order to assess the value of unpaid domiciliary support. Disease activity was measured by the DAS28 score. **RESULTS:** Our final sample consists of 90 patients and descriptive statistics are in line with RA epidemiology (73 women, mean age 56.9). The percentage of patients with low disease activity was 27.7%, whereas, of 43.3% and 28.8% for those with moderate and high disease activity, respectively. Estimated direct non-medical costs ranged from €1,339 to €5,475 per year, for patients with low and high disease activity, respectively. More than 70% of these costs were related to paid and unpaid domiciliary support. **CONCLUSIONS:** Direct non-medical costs are positively associated with disease activity. Estimated costs have a non-negligible magnitude and are entirely borne by patients. Our results confirm the heavy economic burden that RA places on patients and their families.

PMS21
CLAIMS DATA ANALYSIS ON THE ANNUAL FREQUENCY AND INCREMENTAL COST OF REOPERATIONS IN INSTRUMENTAL SPINAL SURGERIES IN GERMANY
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OBJECTIVES: Complications in instrumental spinal surgeries (ISS) pose a considerable burden on patients. Necessary reoperations are associated with significant resource utilization and cost and from the perspective of the German Statutory Health Insurance (SHI). Dependable data on the frequency of reoperations and associated costs are lacking for Germany. The aim of this study was to estimate the incidence of ISS and consecutive reoperations, and to calculate the related costs. **METHODS:** We conducted a retrospective claims data analysis using the Health Risk Institute research database, which contains anonymized claims data and covers approximately 5.42% of the German population. The study period comprised 01 January 2009 to 31 December 2011. An algorithm of operation and procedure codes (OPS) identified primary ISS and following reoperations. Reoperation rates were calculated for an individual period of 12 months after the primary ISS in 2010. Annual costs for reoperations were calculated based on group comparison of patients with reoperation and those without reoperation (control group). Existing differences in cost levels in the year before the primary ISS were adjusted by the difference in differences approach. **RESULTS:** A total of 3,316 individuals had a primary ISS in 2010. The reoperation rate was 9.98% (95% CI = 8.98% to 11.02%). Mean cost per ISS was €11,331 for all patients (€13,358 reoperation group, €11,106 control group). The mean adjusted annual cost for a reoperation was €11,370, with €8,432 directly attributed to the reoperation procedure and €2,938 to excess costs in the first year after the primary ISS. **CONCLUSIONS:** The direct cost of ISS has a significant impact on health insurance budgets. With 10% of primary ISS patients requiring a reoperation in Germany, their associated annual costs are relevant from the SHI perspective. As demonstrated elsewhere, these cost might be partly avoidable by using intra-operative 3-D imaging with navigation.

PMS22
CURRENT AND FUTURE COSTS OF OSTEOPOROTIC FRACTURES IN THE NETHERLANDS
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OBJECTIVES: This study aims to estimate the incidence and costs of osteoporotic fractures in The Netherlands in 2010 and project them to 2030. **METHODS:** The incidence and health care costs of fractures were derived from claims data of all health care insurers in The Netherlands. We obtained 5-year age- and gender-specific costs of patients with and without fractures. Cost included hospital admission, physical therapy, occupational therapy, general practitioner and medication. In order to attribute fractures to osteoporosis we used a large dataset from a general hospital that included patients with a fracture screened with Dexa scan. Future projections were based on four different scenarios: 1. demographic scenario, 2. demographic+trend in incidence scenario, 3. demographic+trend in incidence+trend in cost scenario, and 4. increased treatment scenario. **RESULTS:** Of all registered fractures 32% could be attributed to osteoporosis. In women this percentage was larger than in men (36 versus 21 %). This resulted in an incidence for all osteoporotic fractures of 964 per 100.000 in women and 245 per 100.000 in men for 2010. Over time (2010-2030) the overall increase in incidence of osteoporotic fractures was 40% (scenario 1). The increase in hip fractures ranged from 60% (scenario 1) to 79% (scenario2). In 2010 approximately 200 million Euros was spend on treatment of osteoporotic fractures. The costs for osteoporotic fractures increased with 50% from 2010 till 2030 (scenario 1). The increase in costs for hip fractures was highest, ranging from 60% (scenario1) to 148% (scenario 3&4 combined), resulting in cost estimates in 2030 of 161 and 249 million, respectively. Prevention of osteoporotic fractures in general can lead to cost-savings of 92 million in 2030 (scenario 4 & 1 combined). **CONCLUSIONS:** The expected high increase in incidence and costs of osteoporotic fractures calls for a wider use of prevention and treatment options.

PMS23
BURDEN OF DISEASE ANALYSIS OF ANKYLOSING SPONDYLITIS IN HUNGARY
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OBJECTIVES: Ankylosing spondylitis (AS) entails an individual burden to patients and ties up resources. This study aimed to assess the total costs of AS, including the indirect burden of AS patients in Hungary and to obtain an overview of patients' status, demographics, morbidity, working capacity and other characteristics. **METHODS:** Between January–March 2014, a questionnaire survey was conducted among AS patients, which was filled out voluntarily and anonymously. Missing data was not imputed in the analysis; considered patient number is presented next to results if lower than total patient number. **RESULTS:** 152 patients completed the questionnaire, of which 37% were women. Mean age was 51 years (Standard Deviation [SD]: 13 years) and average disease duration was 17 years (SD: 12 years). At primary diagnosis of AS, 80% of patients had a full-time job, 2% a part-time job, and only 8% received disability pension. At time of survey, only 36% of patients worked full-time, 1% part-time, and the proportion of disability pensioners increased to 42%. Cost calculation results* showed that the average annual total cost per AS patient was 5,155€. Within this, average annual direct non-medical cost was over 1,976€ and average annual indirect cost per patient was approximately 3,129€ (145 patients). Wage loss due to disability pension generated the highest average annual indirect cost per patient (3,290€ – 124 patients). In the working-age population (118 patients, 31–62 years), total average cost per patient was 5,996€. **CONCLUSIONS:** Due to their disease, AS patients can become partially or completely disabled, which imposes a significant burden directly on their environment and indirectly to society. Average costs were associated with disease duration. Patients may already be driven out from the labour market in their active